

LIST OF CURRENT CLAIMS

1. (Currently Amended) A method for ~~testing the authenticity of~~ conducting an authenticated data exchange transaction between a data carrier having an integrated circuit ~~by an and an~~ external device with which the data carrier exchanges data, comprising the steps of:

establishing a first bidirectional transmission channel between the data carrier and the external device, the first bidirectional transmission channel being configured to exchange signals having signal patterns between the data carrier and the external device;

establishing a second bidirectional transmission channel between the data carrier and the external device, the second bidirectional transmission channel being configured to exchange signals having signal patterns between the data carrier and the external device, wherein the second bidirectional transmission channel is logically separated from the first bidirectional transmission channel, the separation of the first and second bidirectional transmission channels being such that data transmission via one bidirectional transmission channel does not interfere with data transmission via the other bidirectional transmission channel and the second bidirectional transmission channel is activable during the total time period between activation and deactivation of the data carrier;

conducting an authenticated data exchange transaction between the data carrier and the external device wherein authentication data and transaction data associated with the authentication data are exchanged between the data carrier and the external device in part via the first bidirectional transmission channel and in part via the second bidirectional channel, comprising

having the data carrier generate a signal required for authenticity testing;

transmitting the signal for authenticity testing from the data carrier to the external device or a signal required for generating the signal for authenticity testing from the external device to the data carrier at least partly via the second bidirectional transmission channel; and

having the external device receive the signal for authenticity testing, and deciding on the basis of the received signal whether the data carrier is authentic.

2. (Previously Presented) A method according to claim 1, characterized in that the second bidirectional transmission channel is provided by modulating the signal of the first bidirectional transmission channel.

3. (Previously Presented) A method according to claim 2, characterized in that modulation does not impair an ISO compatibility of data exchange between the data carrier and the external device existing for the first bidirectional transmission channel.

4. (Previously Presented) A method according to claim 2, characterized in that modulation is performed in areas of the signal pattern which are not evaluated according to ISO 7816.

5. (Previously Presented) A method according to claim 2, characterized in that the changes caused by modulation in the signal of the first bidirectional transmission channel are within the range of variation of the signal level permitted by ISO 7816.

6. (Previously Presented) A method according to claim 2, characterized in that modulation and demodulation of the signal are performed in the data carrier and in the external device with the aid of a mixing/demixing device in each case.

7. (Previously Presented) A method according to claim 1, characterized in that the first bidirectional transmission channel is a line for transmitting standard data or a line for transmitting a clock signal or a line for supply voltage.

8. (Currently Amended) A method for ~~testing the authenticity of~~ conducting an authenticated data exchange transaction between a data carrier having an integrated circuit ~~by an~~ and an external device with which the data carrier exchanges data, comprising the steps of:

establishing a first bidirectional transmission channel between the data carrier and the external device, the first bidirectional transmission channel being configured to exchange signals having signal patterns between the data carrier and the external device according to an ISO standard for a chip card;

establishing a second bidirectional transmission channel between the data carrier and the external device, the second bidirectional transmission channel being configured to exchange signals having signal patterns between the data carrier and the external device, wherein the second bidirectional transmission channel is physically separated from the first bidirectional transmission channel and comprising at least one line or contactless transmission path not provided according to the ISO standard, the second bidirectional transmission channel being activable during the total time period between activation and deactivation of the data carrier;

conducting an authenticated data exchange transaction between the data carrier and the external device wherein authentication data and transaction data associated with the authentication data are exchanged between the data carrier and the external device in part via the first bidirectional transmission channel and in part via the second bidirectional channel, comprising

having the data carrier generate a signal required for authenticity testing;

transmitting the signal for authenticity testing from the data carrier to the external device or a signal required for generating said signal for authenticity testing from the external device to the data carrier at least partly via the second bidirectional transmission channel; and

having the external device receive the signal for authenticity testing, and deciding on the basis of the received signal whether the data carrier is authentic.

9. (Previously Presented) A method according to claim 8, characterized in that the contactless transmission path is realized by transmitting the data as electromagnetic, electrostatic, magnetic, acoustic or optical signals.

10. (Previously Presented) A method according to claim 9, characterized in that a mixture of wavelengths is used for transmission via the contactless transmission path.

11. (Previously Presented) A method according to claim 1, characterized in that the decision on authenticity of the data carrier is contingent on whether data exchange is possible between the devices to which the first and second bidirectional transmission channels are coupled in the data carrier.

12. (Currently Amended) A data carrier which can exchange data with an external device and has an integrated circuit, wherein

the data carrier has a first device configured to generate signals for data exchange between the data carrier and the external device via a first bidirectional transmission channel,

the data carrier has a second device configured to generate signals required for authenticity testing of the data carrier, the second device being configured to exchange data between the data carrier and the external device via a second bidirectional transmission channel, the second device being connected with the first device,

the first and second bidirectional transmission channels are separated logically or physically, and

data exchange with the second device does not interfere with data exchange with the first device, and the second device is ready for generating signals for authenticity testing of the data carrier during the total time period between activation and deactivation of the data carrier;

wherein the data carrier is configured to exchange authentication data and transaction data associated with the authentication between the data carrier and the external device in part via the first bidirectional transmission channel and in part via the second bidirectional channel.

13. (Previously Presented) A data carrier according to claim 12, wherein the first device and the second device are each coupled to the bidirectional transmission channels via a mixing/demixing module.

14. (Currently Amended) A system for testing the authenticity of a data carrier and/or an external device comprising:

a data carrier with a first device configured to generate signals for data exchange with the external device and a second device configured to generate or process signals for authenticity testing,

an external device with a first device configured to generate signals for data exchange with the data carrier and a second device configured to generate or process signals for authenticity testing,

a first bidirectional transmission channel configured to transmit signals between the first device of the data carrier and the first device of the external device,

and a second bidirectional transmission channel configured to transmit signals between the second device of the data carrier and the second device of the external device, the first and second bidirectional transmission channels being separated logically or physically and the separation of the first and second bidirectional transmission channels being so designed that data transmission via one bidirectional transmission channel does not interfere with data transmission via the other bidirectional transmission channel, and the second bidirectional transmission channel being activable during the total time period between activation and deactivation of the data carrier;

wherein the data carrier and the external device are configured to exchange authentication data and transaction data associated with the authentication between the data carrier and the external device in part via the first bidirectional transmission channel and in part via the second bidirectional channel.